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EXAMINER

PATEL, DHIRUBHAI R

ART UNIT

PAPER NUMBER

2831

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Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/019,611		<b>Applicant(s)</b> BYUN, MOO-WON	
	<b>Examiner</b> DHIRU R PATEL		<b>Art Unit</b> 2831	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) ☒ Responsive to communication(s) filed on 06 May 2003.

2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) ☒ Claim(s) 1-20 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.

6) ☒ Claim(s) 1-10 and 12-20 is/are rejected.

7) ☒ Claim(s) 11 is/are objected to.

8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
       Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
       If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
       a) ☐ All    b) ☐ Some \*    c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
       a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) <input type="checkbox"/> Notice of References Cited (PTO-892) 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____. 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6) <input type="checkbox"/> Other: _____
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### **Part III DETAILED ACTION**

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103 (a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-4, 6-10, 12, 14-20 are rejected under 35 U.S.C. § 103 (a) as being unpatentable over Fochler (4,741,593) in view of Battle (5,463,187).

Fochler discloses:

Regarding claims 1 and 10, (a) a plurality of plastic inner ducts 10,12,14 contiguous (see fig 2 abstract lines 1-6, column 2 lines 15-68), co-directionally extending, substantially parallel, in abutting contact with each other (see fig 2, column 1 lines 60-68, column 2 lines 55-65, column 3 lines 34-40, and column 4 lines 50-55), each of said inner ducts having a cross sectional area sufficient to contain at least one cable (see fig 2, column 1 lines 5-15 and column 1 lines 60-65); and (b) a plastic outer duct 20 (sheath of synthetic resin,

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see fig 2, column 3 lines 34-46) encircling said inner ducts over their entire length to retain them in their contiguous relationship (see figs 1-2, column 3 lines 33-45, column 4 lines 64-68, column 5 lines 1-5); (d) whereby said assembly is sufficiently flexible to be coiled around transportable reels 26 (see fig 3, column 4 lines 1-8) as well as sufficiently strong to withstand dirt in a trench (see column 2 lines 48-52 and column 4 lines 1-10), with respect to claim 10, said inner ducts and said outer duct are made of polyethylene (see column 3 lines 9-46, please note that Fochler disclosed that said sheath 20 can be constructed from synthetic resin materials, see column 3 lines 44-46, and also disclosed that synthetic resins includes polyethylene, see column 3 lines 10-15), while Fochler discloses that it is well known to have an outer sheath that may be corrugated (please note that corrugated include alternating ridges and trough or grooves ) for the purpose of retaining the fiber like conductor in desired undulating configuration within the sheath (see column 1 lines 55-60), Fochler doesn't explicitly discloses his outer duct 20 being a corrugated tubular section including a plurality of contiguous ridges and troughs extending over the entire length (for claims 1 and 10). Battle teaches the use of a plastic corrugated outer duct 13 having a plurality of contiguous ridges 17 and troughs extending over the entire length encircling inner ducts to retain them in their contiguous relationship (see fig 2, column 1 lines 50-55 and column 3 lines 1-5, column 5 lines 40-55, please note that corrugated include contiguous alternating ridges and trough or grooves). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide said outer duct 20 of the assembly of Fochler being corrugated including a plurality of contiguous ridges and

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troughs extending over the entire length as taught by Battle (for claims 1 and 10) for the purpose of retaining said inner ducts in desired undulating configuration within the outer duct, and since more than a mere change of form is necessary for patentability. In re Span-Deck Inc. V. Fab-con, Inc. (CA 8, 1982) 215 USPQ 835. Please note that the modified assembly of Fochler meets the limitation for the troughs are in contiguous relationship with the inner ducts for claims 1 and 10.

Regarding claim 2, the modified assembly of Fochler shows all of the claimed features as shown above, including each of said inner ducts being made of polyethylene (see column 3 lines 10-20 of Fochler).

Regarding claims 3-4, the modified assembly of Fochler shows all of the claimed features as shown above, including each of said inner ducts has a substantially round cross sectional shape(see fig 2 of Fochler for claim 3), and each of said inner ducts being made separately extruded (see fig 2 of Fochler for claim 4).

Regarding claim 6, the modified assembly of Fochler shows all of the claimed features as shown above, but fails to disclose said outer duct has a substantially round cross sectional shape, and applicant doesn't state a particular problem is solved by the round cross sectional shape. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide said outer duct of the modified assembly of Fochler with a substantially round cross sectional shape , since more than a mere change of form is necessary for patentability. In re Span-Deck Inc. V. Fab-con, Inc. (CA 8, 1982) 215 USPQ 835.

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Regarding claim 7, the modified assembly of Fochler shows all the features of the claimed invention as shown above, but fails to disclose said outer duct has a substantially ellipsoid cross sectional shape, and applicant doesn't state a particular problem is solved by the substantially ellipsoid cross sectional shape. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide said outer duct of the modified assembly of Fochler with a substantially ellipsoid cross sectional shape, since more than a mere change of form is necessary for patentability. In re Span-Deck Inc. V. Fab-con, Inc. (CA 8, 1982) 215 USPQ 835.

Regarding claim 8, the modified assembly of Fochler shows all of the claimed features as shown above, including said outer duct has a substantially triangular cross sectional shape with round corners (see fig 2 of Fochler).

Regarding claim 9, the modified assembly of Fochler shows all the features of the claimed invention as shown above, but fails to disclose said outer duct has a substantially quadrangular cross sectional shape with round corners, and applicant doesn't state a particular problem is solved by the substantially quadrangular cross sectional shape with round corners. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide said outer duct of the modified assembly of Fochler with a substantially ellipsoid cross sectional shape with round corners, since more than a mere change of form is necessary for patentability. In re Span-Deck Inc. V. Fab-con, Inc. (CA 8, 1982) 215 USPQ 835.

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Regarding claim 12, the modified assembly of Fochler shows all of the claimed features as shown above, including each of said inner ducts is made separately extruded (see fig 2 of Fochler).

Regarding claims 14-15, the modified assembly of Fochler disclose all the features of the claimed invention as shown above, please note that teaching of Battle includes the interior surface of the inner ducts can be formed with longitudinal, spiral, or circumferential ridges upon which the cable rides as it is pulled through the inner ducts( see column 6 lines 1-5 of Battle).

Regarding claim 16, the modified assembly of Fochler shows all of the claimed features as shown above, including the wall of said inner ducts are formed with corrugation ( see column 1 lines 62-67 of Fochler).

Regarding claim 17, the modified assembly of Fochler shows all of the claimed features as shown above, but fails to disclose said outer duct has a substantially round cross sectional shape, and applicant doesn't state a particular problem is solved by the substantially round cross sectional shape. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide said outer duct of the modified assembly of Fochler with a substantially round cross sectional shape, since more than a mere change of form is necessary for patentability. In re Span-Deck Inc. V. Fab-con, Inc. (CA 8, 1982) 215 USPQ 835.

Regarding claim 18, the modified assembly of Fochler disclose all the features of the claimed invention as shown above, but fails to disclose said outer duct has a substantially

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ellipsoid cross sectional shape, and applicant doesn't state a particular problem is solved by the substantially ellipsoid cross sectional shape. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide said outer duct of the modified assembly of Fochler with a substantially ellipsoid cross sectional shape, since more than a mere change of form is necessary for patentability. In re Span-Deck Inc. V. Fab-con, Inc. (CA 8, 1982) 215 USPQ 835.

Regarding claim 19, the modified assembly of Fochler shows all of the claimed features as shown above, including said outer duct has a substantially triangular cross sectional shape with round corners (see fig 2 of Fochler).

Regarding claim 20, the modified assembly of Fochler disclose all the features of the claimed invention as shown above, but fails to disclose said outer duct has a substantially quadrangular cross sectional shape with round corners, and applicant doesn't state a particular problem is solved by the substantially quadrangular cross sectional shape with round corners. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide said outer duct of the modified assembly of Fochler with a substantially quadrangular cross sectional shape with round corners, since more than a mere change of form is necessary for patentability. In re Span-Deck Inc. V. Fab-con, Inc. (CA 8, 1982) 215 USPQ 835.



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2. Claim 5 is rejected under 35 U.S.C. § 103 (a) as being unpatentable over Fochler (4,741,593) in view of Battle (5,463,187), and further in view of Vogelsang (5,236,016).

Regarding claim 5, the modified assembly of Fochler disclose all the features of the claimed invention as shown above, but fails to disclose each of said inner ducts being connected by flexible connecting webs. Vogelsang teaches the use of three identical plastic tubes 2 which are interconnected by flexible connecting webs 3 (see fig 3, column 5 lines 39-45, column 6 lines 60-65) in order for said tubes to be selectively disposed in a plane and rolled by bending at the webs into a bundle (see column 3 lines 40-47, and column 6 lines 60-67 of Vogelsang). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to connect each of said inner ducts of the modified assembly of Fochler by using flexible webs as taught by Vogelsang in order for said inner ducts to be selectively disposed in a plane and rolled by bending at the webs into a bundle to facilitate carrying at construction site as well as for storage.

3. Claim 13 is rejected under 35 U.S.C. § 103 (a) as being unpatentable over Fochler (4,741,593) in view of Battle (5,463,187), and further in view of Vogelsang (5,236,016).

Regarding claim 13, the modified assembly of Fochler disclose all the features of the claimed invention as shown above, but fails to disclose each of said inner ducts being connected by flexible connecting webs. Vogelsang teaches the use of three identical plastic tubes 2 which are interconnected by flexible connecting webs 3 (see fig 3, column 5 lines 39-45, column 6 lines 60-65) in order for said tubes to be selectively disposed in a plane and rolled by bending at the webs into a bundle (see column 3 lines 40-47, and column 6 lines 60-67 of

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Vogelsang). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to connect each of said inner ducts of the modified assembly of Fochler by using flexible webs as taught by Vogelsang in order for said inner ducts to be selectively disposed in a plane and rolled by bending at the webs into a bundle to facilitate carrying at construction site as well as for storage.

***Allowable Subject Matter***

4. Claim 11 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The primary reasons for the indication of the allowability of claim 11 are the inclusion therein, in combination as currently claimed, of the limitation of said inner ducts and said outer duct are welded together at the contiguous portions where the troughs of said outer duct and the outer peripheral surfaces of said inner ducts are contacted

The previously listed limitation is neither disclosed nor taught by the prior art of record, alone or in combination.

***Response to Arguments***

5. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

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***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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**Contact information**

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dhiru Patel whose telephone number is (703) 308 -3748. The examiner can normally be reached on Mondays- Thursdays from 6:30 am to 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard be reached at 703-308-3682. The fax number for this Group is 703-305-3431. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0956.

Dhiru Patel  
Patent Examiner  
Group Art Unit 2831  
June 28, 2003

A handwritten signature in black ink that reads "Dhiru Patel". The signature is written in a cursive, flowing style with a large initial "D" and a stylized "P".